----- Original Message -----
From: Don Jansky
To: Fontes, Brian
Cc: Williams, Frank ; Wengryniuk ; Warren ; Swanson, Richard ; Rummler ; Roytblat, Alex ; Reed, Larry ; Marrangoni ; Mahoney, P ; Larrym ; Jansky, Don ; Jacobs, Ed ; Ireland, Walt ; Hayden ; Garfield, Diane ; Fontes, Brian ; Breig ; Bethea, Donna ; Baum, Kim ; Baruch, Steve ; Allison, Audrey ; Weiland, Donald ; Murphy, Chris ; Wye, David ; Giselle Creeser ; Keltz, Ira ; Buchanan, Julie ; Wolf, Marcus ; Nelson, Robert ; Dubroof, Linda
Sent: Tuesday, April 02, 2002 2:56 PM
Subject: IWG-5 Proposal

Attached is a Draft proposal from IWG-5 concerning Agenda Item 5. While most members support this proposal, the American Radio Relay League (ARRL), objects to the proposed primary mobile allocation in the band 5650-5725 MHz because of an existing secondary allocation to the Amateur Radio Service. The ARRL prefers a proposal of NOC (no change) in this band.

Regards,

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Document IWG-5/028 (04-02-02)
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WRC-2003 Advisory Committee
IWG-5
Draft Proposal on WRC-03 Agenda Item 1.5

Agenda Item 1.5: To consider, in accordance with Resolution **736** (WRC-2000), regulatory provisions and spectrum requirements for new and additional allocations to the mobile, fixed, Earth exploration-satellite and space research services, and to review the status of the radiolocation service in the frequency range 5150-5725 MHz with a view to upgrading it, taking into account the results of ITU-R studies

Background: At WRC-2000 there were several proposals for items to be placed on the WRC-03 Agenda dealing with spectrum in the 5 GHz range. These items included new and additional allocations to the mobile (for Wireless Access Systems (WAS), including Radio Local Area Networks (RLAN)), fixed (for Fixed Wireless Access (FWA) in Region 3), Earth exploration-satellite and (active) and space research (active) services. Also, an upgrade of the radiolocation allocation in 5350-5650 MHz was proposed. These were combined into one agenda item, since the possible allocation to any one of these services would affect the potential allocation of one or more of the other services within this frequency range.

Technology has evolved to the point where wireless networks can be readily and inexpensively deployed to support a wide variety of users including businesses, educational and health care institutions, and even private citizens in their homes. These devices are becoming widely used in some parts of the world, particularly in North America and Europe.

The U.S. domestic allocation table allows for the use of RLAN and FWA devices on an unlicensed, non-protected, non-interference basis in the 5150-5350 and 5725-5825 MHz bands. These devices have power level and antenna gain restrictions on them to protect the existing allocated services and can neither claim protection from nor cause interference to the existing services in these bands. Thus, in the United States, an RLAN system meeting the power level and antenna gain restrictions must still remedy any interference that it causes. Europe has also provided for the use of these devices in similar spectrum, but on a co-primary allocation basis with technical restrictions designed to assure the protection of pre-existing primary services.

A globally harmonized allocation for such devices, as is clearly contemplated in Resolution **736** (WRC-2000), would greatly enhance the utility and benefit to society of these devices by facilitating roaming, reducing manufacturing and end-user costs, and providing a greater degree of regulatory certainty as to the future value of investments in this technology, both for the users and for the manufacturers of such devices.

Initial analysis by the CEPT shows that RLAN devices cannot share with radars in the subject bands without Dynamic Frequency Selection (DFS) or like mitigation techniques. However, testing is expected to be performed to ensure that DFS can detect and avoid all types of radars in the subject bands. It is also expected that restrictions on FWA systems will be necessary to protect the existing services. For, example, studies show that presence of outdoor wireless access system transmitters can cause interference to spaceborne active sensors that operate in the EESS and SRS. In addition, the ITU-R has concluded that restrictions are also necessary to protect the MSS feederlinks in the 5150-5250 MHz band.

Active microwave sensors on board spacecraft are an increasingly important tool for monitoring the Earth's environment and oceans through the determination of wave height and oceanic currents as well as for radar imaging of the Earth's surface. The need for an additional 110 MHz of spectrum adjacent to the current international allocation from 5250 - 5460 MHz is well documented within the ITU-R. The member space agencies of the Space Frequency Coordination Group (SFCG) have reviewed requirements for the various active sensor measurements, including TOPEX/POSEIDON and JASON. They have recognized the requirement for an extension of the existing allocated primary band (5250 - 5460 MHz) for enhanced vertical resolution for spaceborne altimeters and enhanced horizontal resolution for synthetic aperture radars (SARs). Previous studies and past operational experience has shown that operation in bands allocated to the radiolocation, radionavigation and aeronautical radionavigation services has proven to be feasible. Although further study is needed to confirm that this true in the 5460 - 5570 MHz band, ITU-R preliminary studies indicate that this is the case.

WRC-97 first considered the possibility of an allocation upgrade for the radiolocation service in the 2.9-3.4 GHz and 5.35-5.65 GHz bands by placing this matter on the draft WRC-2001 Agenda. A need of 600 MHz of additional primary radiolocation spectrum for radiolocation systems has been determined. Changes in technology are driving the need for larger bandwidth in order to be able to pick smaller and less reflective radar targets out of background clutter. Experience has shown that the radiolocation service can successfully share the band 5350-5650 MHz with radionavigation and EESS/SRS active systems. In fact studies of sharing between radiolocation and active space borne sensors carried out for CPM-97 by JWP-7-8R generally support such sharing.

Proposal:

USA/ /1
ADD

Sx.xxxY Use of this band by the mobile service is intended for use by wireless access systems, including RLANs (see ITU-R Recommendation M.1450). Other forms of mobile service usage shall not be permitted in this band.

Reason: To clarify that the mobile allocations proposed for addition to the table of allocations are restricted to WAS/RLAN device usage only and are not "generic" mobile allocations open to other forms of usage.

USA/ /2
ADD

Sx.xxxZ In the bands 5150-5350 MHz, 5460-5650 MHz, and 5650-5725 MHz, stations in the mobile service shall not cause harmful interference to other stations operating under a primary allocation. Administrations should take note of the technical requirements outlined in ITU-R Recommendation M.xxxx "Dynamic Frequency Selection and Transmit Power Control in 5 GHz RLANs," which describes means to significantly reduce or eliminate potential interference to other primary services.

Reason: To provide regulatory measures for the protection of the existing co-primary services from harmful interference from wireless access systems, including RLANs, authorized under the proposed (restricted) mobile allocation.

USA/ /3
MOD

5 150-5 725 MHz

Allocation to services		
Region 1	**Region 2**	**Region 3**
***		
5 150-5 250	AERONAUTICAL RADIONAVIGATION FIXED-SATELLITE SERVICE (Earth-to-space) S5.447A **ADD MOBILE Sx.xxxY** S5.446 S5.447 S5.447B S5.447C **ADD Sx.xxxZ**	
5 250-5 255	EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION SPACE RESEARCH S5.447D **ADD MOBILE Sx.xxxY** S5.448 S5.448A **ADD Sx.xxxZ**	
5 255-5 350	EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) **ADD MOBILE Sx.xxxY** S5.448 S5.448A **ADD Sx.xxxZ**	
5 350-5 460	EARTH EXPLORATION- SATELLITE (active) S5.448B AERONAUTICAL RADIONAVIGATION S5.449 **MOD ~~radiolocation~~ RADIOLOCATION**	
5 460-5 470	RADIONAVIGATION S5.449 **MOD ~~radiolocation~~ RADIOLOCATION**	
5 470-5 650	MARITIME RADIONAVIGATION **MOD ~~radiolocation~~ RADIOLOCATION** **ADD MOBILE Sx.xxxY** S5.450 S5.451 S5.452 **ADD Sx.xxxZ**	
5 650-5 725	RADIOLOCATION **ADD MOBILE Sx.xxxY** Amateur Space research (deep space) S5.282 S5.451 S5.453 S5.454 S5.455 **ADD Sx.xxxZ**	
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Reason: 1) Provide needed, globally harmonized spectrum for wireless access systems, including RLANS
2) Consequential upgrade to the radiolocation service to assure its protection from harmful interference due to WAS/RLAN systems